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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,119	01/03/2005	Kei Ishii	0946-0125PUS1	9687
2292 7590 04/06/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER MAI, NGOCLAN THI	
			ART UNIT 1742	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			NOTIFICATION DATE	DELIVERY MODE
3 MONTHS			04/06/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/06/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/520,119

Applicant(s)

ISHII ET AL.

Examiner

Ngoclan T. Mai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/3/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,767,426, now Oliver et al in view of 2002/0029657, now Uenosono and U.S. Patent No. 4,543,208, now Horie et al.

Oliver et al discloses a magnetic core and method of making, wherein the method comprises forming an iron-based powder composition, which comprises an admixture of (1) iron-based particles, (2) particles of a thermoplastic material and (3) a particulate fluorine resin such as polytetrafluoroethylene, col. 3, l. 24-30, subjecting the thus formed mixture to compacting with a compacting die col. 7, l. 42-43 and heat treating the compacted component, col 8, l. 11-32. (Note that the term "if occasion demands" recited in last step of method claim 6 is interpreted as optional.) Oliver et al teaches coating the iron-based particles with an insulative inorganic material such as iron phosphate, col. 7, l. 28-30. Oliver et al also teaches employing compacting die, whose wall surface is coated with a lubricant, 7, l. 42-43. For the thermoplastic material Oliver et al teaches any polymeric material that acts as an insulator and can be sufficiently softened upon compaction so as to adhere or bond to the surfaces of the iron-based particles can be used, col. 5, l. 7-12. The polymeric material taught can be polyetherimide, polyphenylene ethers, polyethersulfones, polycarbonates, polyethylene glycols, polyvinyl acetates and polyvinyl alcohol, col. 5, l. 17-

24. Oliver et al teaches the thermoplastic constitutes about 0.001 to about 15% by weight of the total weight of the iron-based particles and the thermoplastic material.

Oliver et al differs from the claims in that there is no teaching (a) the iron-based particle being composed of atomized iron powder and reduced iron powder and (b) polyimide as the organic insulating material and binder.

As for the difference (a) above, Uenosono teaches utilizing iron-based powder comprising an appropriate amount of reduced iron powder to atomized iron powder as a main component remarkably improves the die filling property [0024]. Uenosono teaches utilizing iron-based powder comprises 10% to about 40% of a reduced iron powder on a mass % basis, based on the entire amount of the iron-based powder and as a result the die filling property can be improved remarkably without greatly lowering the compressibility, [0028].

Based on Uenosono's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ in the core component of Oliver an iron-based powder comprising atomized iron powder and reduced iron powder in the amount for as taught by Uenosono for the improvement in die filling.

As for the difference in (b) above, Horie et al teaches in the same field of endeavor discloses insulating binder resin can be thermosetting and thermoplastic resin such as epoxy resins, polyamide resin, polyimide resin, polyester resins, polycarbonate resins, polyacetal resins, polysulfone resins, polyphenylene oxide resins and the like, col. 3, l. 51-65.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the polymeric compound taught by Horie for that of

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the Oliver et al in view of Uenosono et al. for the purpose of providing an insulator and binder to iron-based powder of Oliver et al. in view of Uenosono et al. To select thermosetting or thermoplastic polyimide among the well known insulating binder resin taught by Horie for the polymeric material of Oliver et al in view of Uenosono et al. is within one skill in the art and would have been obvious.

As for claims 2 and 4, Oliver et al in view of Uenosono et al. teaches the polymeric material constitutes about 0.001 to about 15% by weight of the total weight of the iron-based particles and the polymeric material, col. 7, l. 1-3. As for claims 3 and 5 Oliver et al in view of Uenosono et al. further teaches fluoric resin constitutes about 0.001 to about 1.5% by weight of the total weight of the iron-based particles and polymeric material. Since the amounts of polymeric material and fluoric resin overlap those of the applicant, it would have been obvious to one of ordinary skill in the art to select any portion of range, including the claimed range, from the broader range disclosed in a prior art reference because the prior art reference finds that the amount of polymeric material and fluoric resin in the entire disclosed ranges can be used to impart good flow properties to the composition and provide excellent lubricity. --- Note: Even if a reference teaches a preferred range within a broader range, it still does not "teach away" from the claimed invention. See MPEP 2123.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,543,208, now Horie et al. in view of 2002/0029657, now Uenosono.

Horie et al discloses a magnetic core and method of producing the same, wherein the magnetic core is formed by comprising mixing iron powder and/or an iron alloy magnetic powder with an insulating binder resin and an insulating inorganic compound powder,

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molding the mixed powder and heating the molded powder, col. 4, l. 37-45. Horie et al. teaches insulating binder resin can be thermosetting and thermoplastic resin such as epoxy resins, polyamide resin, polyimide resin, polyester resins, polycarbonate resins, polyacetal resins, polysulfone resins, polyphenylene oxide resins and the like, col. 3, l. 51-65.

Horie et al differs from the claim in that there is no teaching the iron-based particle being composed of atomized iron powder and reduced iron powder.

Uenosono teaches utilizing iron-based powder comprising an appropriate amount of reduced iron powder to atomized iron powder as a main component remarkably improves the die filling property [0024]. Uenosono teaches utilizing iron-based powder comprises 10% to about 40% of a reduced iron powder on a mass % basis, based on the entire amount of the iron-based powder and as a result the die filling property can be improved remarkably without greatly lowering the compressibility, [0028].

Based on Uenosono's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ in the core component of Horie et al. an iron-based powder comprising atomized iron powder and reduced iron powder in the amount for as taught by Uenosono for the improvement in die filling.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoclan T. Mai whose telephone number is (571) 272-1246. The examiner can normally be reached on 9:30-6:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

n.m.

ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700